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ABSTRACT

The investigation examined which of four instructional materials or combination of materials best prepared students to achieve the objective called "Introduction to Instructional Design," which is an optional objective of the Brigham Young University Individualized Secondary Teacher Education Program. The student must identify the premise underlying the Modified General Model of Instruction (MGMI), identify its sequence of steps, and classify written descriptions of the various activities. Several strategies of preparation are possible, and it is these that are to be validated in the investigation: 1) no preparation, 2) watching a film strip accompanied by cassette tape, 3) reading and studying a written description of the MGMI with examples, or 4) using a combination of preparations 2 and 3. By using a posttest-only control group design, it was shown that neither the written materials alone nor the filmstrip/tape alone was as successful as their combination. Of interest was the finding that the results of students using the written materials closely paralleled the scores of students viewing the filmstrip/tape, although neither of the two instructional methods performed well in preparing students to achieve the objective. (LH)

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VALIDATION OF INDIVIDUALIZED INSTRUCTIONAL MATERIALS

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In Brigham Young University's ISTEP program (Individualized Secondary Teacher Education Program) there exists an optional objective called "Introduction to Instructional Design." If a student contracts for this objective, he is required to do the following:

1. Identify the premise underlying the Modified General Model of Instruction.
2. Identify the sequence of the steps of the MGMI.
3. Classify written descriptions of the various activities.

When a student feels capable of his ability and knowledge to achieve this objective, he receives a written examination which includes all three of these areas.

In preparing himself to receive this examination and achieve the objective, the student may use one of several strategies: (1) no preparation prior to the exam; (2) watching a filmstrip entitled "Systematic Instructional Decision Making" while listening to an accompanying cassette tape; (3) reading and studying a written description of the MGMI with accompanying examples; or (4) using a combination of preparations 2 and 3.

The purpose of this investigation is to examine which of the instructional materials or combination of materials best prepared the student to achieve the objective. Validating means, "Do the materials really teach the things we want our students to learn?"

PROCEDURE

The first concern was to develop or find an appropriate research design to answer the above questions. In this case, a pretest-posttest design was ruled out by the fact that time did not allow the construction of a different pretest. It was also decided not to use the posttest, with items scrambled, as a pretest. The chosen design was a Posttest-Only Control Group design (Stanley and Campbell, 1966). Table 1 illustrates the experimental design.

TABLE 1
EXPERIMENTAL DESIGN

GROUP	TREATMENT	POSTTEST
I	Written Description	X
II	Film/Tape	X
III	Written Description & Film/Tape	X
IV	Irrelevant Task	X

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By using this simple posttest design internal validity was maintained by randomization. Twenty students contracted for the objective "Introduction to Instructional Design," none of whom had prior contact with the instructional materials. All 20 students were randomly assigned to one of four groups: I, II, III, and IV.

Group IV, receiving no treatment, proceeded directly to the posttest. This was the control group for all the treatments. If Group IV achieved the objective, we could assume the instructional materials were unnecessary.

Group I received the treatment consisting of reading and studying the written definition and explanation of the MGMI. Group II received a filmstrip with an accompanying cassette tape. Group III received both the written materials and the filmstrip and tape.

When all subjects were assembled, they were informed of their group identity I, II, III, or IV, and which materials they were to receive. The importance of studying or watching and listening carefully, whichever the case, was stressed. Group I was issued the written materials. Groups II and III went together to view the filmstrip after which Group II received the written materials.

The filmstrip and tape were played in the ISTEP listening lab. Studying of written materials took place in the ISTEP study area.

Groups I, II, and III were instructed to proceed to ISTEP's testing center immediately after they felt confident of their respective materials. No time limit was placed on study of any of the instructional materials because ordinarily an ISTEP student may study as long as desired before proceeding to evaluation. Thus, as many variables as possible were controlled by proceeding with the validation in the same manner and for as long as the students normally do.

Groups IV was instructed to proceed directly to testing where the written examination was administered to them. If they failed to achieve the objective during the validation experiment, they were instructed to make use of either the written materials, the filmstrip and tape, or both, before attempting once again during regular testing hours to achieve the objective. The latter case was for fulfillment of ISTEP contract only and had no bearing on this study.

The examination consisted of 28 items with 23 or more required for achievement.

TABLE 2
RESULTS OF POSTTEST

GROUP	# ITEMS MISSED FOR EACH STUDENT					# STUDENTS WHO ACHIEVED OBJECTIVE
I	12	9	6	6	2	3 of 5
II	11	9	7	6	2	3 of 5
III	7	6	5	4	4	4 of 5
IV	15	10	8	8	6	1 of 5

RESULTS

The data show that neither the written materials alone nor the filmstrip/tape alone was as successful as their combination. It is interesting to note that the results of students using the written materials closely paralleled the scores of students viewing the filmstrip/tape. However, independently of each other, the two instructional methods did not perform well in preparing students to achieve the objective. When they were combined, they complemented each other well enough to produce the results of Group III.

DISCUSSION

By virtue of this experiment students in ISTEP may proceed to achieve Objective 7.10 the best possible way with the present instructional materials. This does not preclude the fact that the instructional materials cannot or will not be upgraded or improved. When the materials are improved, they will be compared to what is being used to determine their individual and collective validity.

Further research will be required to analyze whether the written material and the film/tape presentation presented different information or if they reviewed the same information thus increasing the number of achievements by the group which used them both.